

CLAIM AMENDMENTS

Claims 1 – 59 (**canceled**)

60. (Previously presented) A method of imaging an artery in a patient using magnetic resonance imaging and an administered magnetic resonance contrast agent, comprising,

collecting image data of an image sequence wherein the image sequence includes:

image data which is representative of a center of k-space, and

image data which is representative of a periphery of k-space, and

wherein the image sequence is arranged to collect image data which is representative of the periphery of k-space before collecting image data which is representative of the center of k-space; and

temporally correlating the administration of the magnetic resonance contrast agent to the patient with collecting image data which is representative of the center of k-space based on an estimated circulation time of the contrast agent in the patient.

61. (Previously presented) The method of claim 60 wherein temporally correlating the administration of the magnetic resonance contrast agent to the patient with collecting image data which is representative of the center of k-space further includes temporally correlating the administration of the magnetic resonance contrast agent to the patient based on the delay time in a delivery system.

62. (Previously presented) The method of claim 60 wherein temporally correlating administering the magnetic resonance contrast agent with collecting image data based on the circulation time of the contrast agent provides a concentration of contrast agent in the artery is substantially greater than a concentration of contrast agent in veins and background tissue adjacent to the artery while collecting the image data which is representative of the center of k-space.

63. (Previously presented) The method of claim 60 wherein the image sequence is a 3D pulse sequence.

64. (Previously presented) The method of claim 63 wherein the artery is the aorta and the image data corresponding to the aorta is reconstructed to create a maximum intensity projection.

65. (Previously presented) The method of claim 60 wherein temporally correlating the administration of the magnetic resonance contrast agent to the patient with collecting image data which is representative of the center of k-space further includes temporally correlating based on a location or size of the artery.

66. (Previously presented) The method of claim 60 wherein the imaging pulse sequence is arranged to collect image data which is representative of the periphery of k-

space before and after collecting image data which is representative of the center of k-space.

67. (Currently amended) The method of claim 60 wherein the imaging sequence is a 3D pulse sequence having a repetition time (TR) that is less than 25 milliseconds.

68. (Canceled)

69. (Previously presented) A method of imaging an artery in a patient using a magnetic resonance imaging apparatus, comprising,
administering a magnetic resonance contrast agent to the patient;
collecting image data of an imaging pulse sequence; and
temporally correlating administering the magnetic resonance contrast agent with collecting image data based on the type of the imaging pulse sequence and the circulation time of the magnetic resonance contrast agent in the patient to provide a concentration of the contrast agent in the artery which is substantially greater than the concentration of contrast agent in veins adjacent to the artery during collecting the image data.

70. (Previously presented) The method of claim 69 wherein the imaging pulse sequence is arranged to collect image data which is representative of a periphery of k-space before and after collecting image data which is representative of a center of k-space.

71. (Previously presented) The method of claim 69 wherein the pulse sequence is arranged to collect image data which is representative of the center of k-space before collecting image data which is representative of the periphery of k-space.

72. (Previously presented) The method of claim 69 wherein temporally correlating administering the magnetic resonance contrast agent with collecting image data further includes correlating administering the magnetic resonance contrast agent with collecting the image data based on the amount of contrast agent administered.

73. (Previously presented) The method of claim 69 further including instructing the patient to suspend respiration while collecting the image data which is representative of a center of k-space.

74. (Previously presented) The method of claim 69 wherein temporally correlating administering the magnetic resonance contrast agent with collecting image data further includes administering the magnetic resonance contrast agent to the patient before collecting image data to provide a maximum concentration of the contrast agent in the artery relative to the veins adjacent to the artery to coincide with collecting the image data which is representative of a center of k-space.

75. (Previously presented) The method of claim 69 wherein the imaging sequence is a 3D pulse sequence having a TR that is less than 25 milliseconds.

76. (Previously presented) The method of claim 75 wherein the 3D pulse sequence is arranged to collect the image data which is representative of the center of k-space substantially at the beginning of the 3D pulse sequence.

77. (Previously presented) The method of claim 76 wherein administering the magnetic resonance contrast agent includes administering the contrast agent to the patient by bolus injection.

78. (Previously presented) The method of claim 75 wherein the 3D pulse sequence is arranged to collect the image data which is representative of the center of k-space substantially in the middle of the 3D pulse sequence.

79. (Previously presented) The method of claim 69 wherein the artery is the aorta and the image data corresponding to the aorta is reconstructed to create a maximum intensity projection.